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Development and Validation of the Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Short Form

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Abstract

Studies investigating the effectiveness of compassion-focused therapy (CFT) are growing rapidly. As CFT is oriented toward helping people deal with internal processes of self-to-self-relating, having instruments to measure these processes is important. The 22-item Forms of Self-Criticising/Attacking and Self-Reassuring scale (FSCRS) has been found a useful measure. In the present study, a 14-item short form of the FSCRS (FSCRS-SF) suited to studies requiring brief measures was developed and tested in a Dutch community sample (N = 363), and cross-validated in a sample consisting of participants in a study on the effectiveness of a guided self-help compassion training (N = 243). Confirmatory factor analysis indicated acceptable to good fit of the FSCRS-SF items to a three-factor model. Findings regarding internal consistency were inconsistent, with Study 1 showing adequate internal consistency for all subscale scores and Study 2 demonstrating satisfactory internal consistency only for the reassured self subscale score. Furthermore, the results showed that the FSCRS-SF subscale scores had adequate test-retest reliability and satisfactory convergent validity estimates with theoretically-related constructs. In addition, the FSCRS-SF subscale scores were found to be sensitive to changes in self-to-self relating over time. Despite mixed findings regarding its reliability requiring further investigation, the FSCRS-SF offers a valid and sensitive measure which shows promise as a complimentary shorter version to the original FSCRS suited to non-clinical populations. Given that the FSCRS is increasingly used as a process and outcome measure, further research on this short form in non-clinical and clinical populations is warranted.

Keywords: self-criticism, self-reassurance, questionnaire, psychometric properties, short form

Public Significance

The present study builds upon earlier findings regarding the psychometric properties of the Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS) through developing and validating a short form. Despite mixed findings regarding its reliability requiring further investigation, the short form has adequate psychometric properties including structural validity, convergent validity and sensitivity to change, hence shows promise as a complimentary shorter version to the original FSCRS suited to non-clinical populations.

Development and Validation of the Forms of Self-Criticising/Attacking and Self-Reassuring Scale - Short Form

In the face of failure, distress or setbacks, individuals use different styles of self-to-self relating. In other words, people differ in the way they think about and treat themselves (Gilbert, Clarke, Hempel, Miles, & Irons, 2004). Self-criticism, characterized by the tendency to negatively judge and scrutinize oneself (Shahar et al., 2012), can be described as a maladaptive way of self-to-self relating. Increasing empirical evidence suggests that self-criticism can be linked to various forms of psychopathology, including depression (Ehret, Joormann, & Berking, 2015), anxiety (Shahar, Doron, & Szepsenwol, 2015), posttraumatic stress disorder (Cox, MacPherson, Enns, & McWilliams, 2004), eating disorders (Noordenbos, Aliakbari, & Campbell, 2014) and self-injury (Gilbert et al., 2010; Glassman, Weierich, Hooley, Deliberto, & Nock, 2007). Self-reassurance, a major component of self-compassion, may be considered an adaptive form of self-to-self relating. This entails the ability to soothe or reassure oneself when things go wrong. Self-reassurance is characterized by a positive, warm and accepting attitude towards the self (Gilbert et al., 2004). As opposed to self-criticism, self-reassurance contributes to mental health and well-being and protects against psychological distress (Ehret et al., 2015; Gilbert et al., 2008; Muris & Petrocchi, 2016; Zessin, Dickhäuser, & Garbade, 2015). From the above, it becomes clear that styles of self-to-self relating may drive or protect against several psychological difficulties, hence can be thought of as transdiagnostic processes. Transdiagnostic processes refer to shared mechanisms underlying various forms of psychopathology (Harvey, Watkins, Mansell, & Shafran, 2004; Watkins, 2015).

Based on the premise that self-to-self relating plays an important role in the onset, maintenance and recovery of common psychological disorders such as depression, compassion-focused therapy (CFT) helps people relate to themselves in a more self-

reassuring and less self-critical way (for a review, see Gilbert, 2009, 2014). There is increasing evidence for the beneficial effects of CFT on mental health and well-being (Braehler et al., 2013; Gilbert & Procter, 2006; Kirby, 2016; Leaviss & Uttley, 2015), which have been attributed to, in part, changing people's internal style of self relating to one of compassion and self-assurance. The ways of measuring these changes have been through self-report scales, such as the Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004). This self-administered tool enables the assessment of three forms of self-to-self relating as a process measure. Two subscales represent maladaptive forms of self-to-self relating, namely self-criticism induced by the desire to correct or improve certain aspects of the self, referred to as inadequate self, and self-criticism arising from the desire to hurt, persecute and attack the self, referred to as hated self. A third subscale, reassured self, reflects the ability to reassure oneself. The FSCRS items were developed by collecting typical thoughts of depressed patients in clinical practice (Gilbert et al., 2004).

To date, a number of studies have provided support for the validity and reliability of the FSCRS in both clinical and non-clinical populations (Baião, Gilbert, McEwan, & Carvalho, 2015; Castilho, Pinto-Gouveia, & Duarte, 2015; Gilbert et al., 2004; Kupeli, Chilcot, Schmidt, Campbell, & Troop, 2013). The focus in these studies was primarily on basic psychometric properties including the factorial structure, reliability and convergent validity of the scale. All of these studies concluded that a three-factor-model, wherein each form of self-to-self relating represents an independent factor, shows an acceptable fit. Kupeli et al. (2013) and Castilho et al. (2015) demonstrated a poor fit for a one-factor and a two-factor solution. Furthermore, the FSCRS showed good internal consistency for each subscale (coefficient-alpha > .80). Also, it was explored how the FSCRS subscales performed against other self-criticism scales as well as instruments measuring related psychopathological

symptoms such as depression, anxiety and stress (Castilho et al., 2015; Gilbert et al., 2004). One study (Castilho et al., 2015) evaluated correlations with positive psychological constructs, including self-compassion and optimism. This is relevant given that previous research has shown that positive and negative indicators of well-being are relatively independent from one another (Huppert & Whittington, 2003; Keyes, 2005). Therefore, using both positive and negative psychological measures to assess the validity of the FSCRS may offer additional insights. Overall, convergent validity of the FSCRS was largely supported.

Today, there are few studies exploring changes in self-to-self relating over time (following a psychological intervention). Establishing sensitivity to change of scales like the FSCRS is especially relevant from a research perspective. When the FSCRS is intended to demonstrate the effects of CFT as well as to study self-to-self relating as a potential working mechanism, sensitivity to change is a key property (Vermeersch, Lambert, & Burlingame, 2000).

Overview of the present study

Although the FSCRS has been found a useful scale for measuring forms of self-to-self relating, we wondered if a valid shortened version could be generated for use in studies using multiple instruments and assessment times and requiring brief scales. A shortened version may help to minimize the response burden for participants while increasing response rates (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004; Edwards et al., 2002; Fan & Yan, 2010). Accordingly, the present study sought to develop a short form of the FSCRS (i.e. FSCRS-SF) and to provide preliminary evidence of its construct validity, reliability and sensitivity to change. The FSCRS-SF was developed and tested using cross-sectional data gathered from a non-clinical convenience sample of Dutch participants (Study 1), and subsequently cross-

validated in a sample consisting of participants in a two-arm randomised controlled trial (RCT) investigating the effectiveness of a guided self-help compassion training (Study 2).

STUDY 1

The aim of the first study was to develop a shortened, easy-to-administer version of the FSCRS, the FSCRS-SF, which (a) measures and preserves the content of the three FSCRS subscales, (b) reduces the length of the FSCRS by approximately one third (i.e. retains no more than 15 items, with a minimum of four items per subscale), (c) shows acceptable model fit for a three-factor structure similar to the original FSCRS, (d) has acceptable internal consistency, and (e) demonstrates similar convergent validity compared to the full version.

Multiple hypotheses were generated in this regard. We expected to confirm the three-factor structure of inadequate self, hated self and reassured self of the full FSCRS to the sample data (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004; Kupeli et al., 2013). Furthermore, we predicted good internal consistency (coefficient-alpha > .70, coefficient-omega > .70) for all subscale scores of the FSCRS-SF (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004; Kupeli et al., 2013). With regard to convergent validity, we explored how the FSCRS-SF subscales performed against measures of self-compassion, well-being, stress, and depressive and anxiety symptoms. A strong and positive correlation was predicted between the inadequate self and hated self-subscale (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004). Both forms of self-criticism were expected to show a strong and negative correlation with self-reassurance, as well as with self-compassion. At least moderate and positive correlations were predicted between self-criticism (both forms) and stress and depressive and anxiety symptoms. Moderate negative associations were expected between self-criticism and well-being. With regard to self-reassurance, a strong and positive correlation was expected with self-compassion, while a positive correlation of moderate size

was predicted with well-being, with the strongest correlation expected for psychological well-being (Zessin et al., 2015). At least moderate, negative correlations were expected between self-reassurance and stress, depressive symptoms and anxiety symptoms (Barnard & Curry, 2011; MacBeth & Gumley, 2012).

Method

Participants and procedure

The FSCRS-SF was developed and tested using cross-sectional data gathered from a sample of people from the Dutch population who participated in an online survey conducted between February and July 2015. Ethical approval for this study was obtained from the Faculty of Behavioral Sciences Ethics Committee at the University of Twente in the Netherlands. Participants were recruited by undergraduate Psychology students in the context of a course in research methods. The students were instructed to recruit a heterogeneous convenience sample from their personal environment. Individuals interested in participation received an e-mail with a link to the online survey that was programmed in the online survey tool Qualtrics. In total, 397 people opened the survey link in Qualtrics. Of those, 34 individuals did not start with the questionnaire and were therefore omitted from the analyses. We excluded four people who solely provided informed consent and 30 people who reported only socio-demographics. This resulted in an actual dataset of 363 participants. Mean age of the sample was 30.67 years (*SD* = 13.38, range: 15-81 years) and the majority was female (64.7%) and had an intermediate education level (63.4%). Additional characteristics are listed in Table 1, as well as mean scores on the various measures. Chi-square and Mann-Whitney U tests revealed that those who were removed from the analyses yet completed the socio-demographic questions (*n* = 30) did not significantly differ from those who were included (*n*

= 363) on any of the demographic characteristics (age: $U = 4696.00$, $Z = .88$, $p = .38$; gender: $\chi^2(1, N = 393) = .34$, $p = .56$; marital status: $\chi^2(1, N = 393) = 1.12$, $p = .29$; educational level: $\chi^2(1, N = 393) = 2.60$, $p = .11$; work status: $\chi^2(1, N = 393) = .17$, $p = .68$).

Measures

Self-criticism and self-reassurance. The Dutch version of the 22-item Forms of Self-Criticising/ Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004) was developed by two independent English/Dutch speakers. The original FSCRS was translated to Dutch, and subsequently translated back to English by an independent translator. Item content and wording of the Dutch version were compared to the original FSCRS, and the translation was evaluated positively for all items. The FSCRS assesses two forms of self-criticism: inadequate self (IS) and hated self (HS), and the ability to self-reassure (i.e. reassured self; RS). These different components represent three subscales consisting of 9, 5 and 8 items, respectively. Participants respond to a selection of statements, asking about how one thinks and reacts in the face of failures or setbacks, on a 5-point Likert scale ranging from 0 (*not like me at all*) to 4 (*extremely like me*). Higher scores indicate a greater sense of inadequacy (score 0 – 36), self-hate (score 0 – 20) or self-reassurance (score 0 – 32). Multiple studies indicate that the FSCRS has good internal consistency and construct validity (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004; Kupeli et al., 2013).

Self-compassion. Self-compassion was examined with the 12-item Self-Compassion Scale—Short Form (SCS-SF; Neff, 2003; Raes, Pommier, Neff, & Van Gucht, 2011). Items are rated on a 7-point Likert scale from 1 (*rarely or never*) to 7 (*almost always*). The total score ranges between 12 and 84, with higher scores reflecting higher levels of self-compassion. Following recommendations of López et al. (2015), we also calculated separate scores for the positively and negatively formulated items of the SCS-SF. Higher scores

indicate more self-compassion or self-criticism, respectively. Previous research has shown that the SCS-SF has good psychometric qualities (Raes et al., 2011). In the present study, internal consistency was good for the total scale (α = .85) as well as for the positive and negative facets separately (α = .82 and α = .88, respectively).

Well-being. The Mental Health Continuum—Short Form (MHC-SF; Keyes, 2002; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011) was used to measure three dimensions of well-being, namely emotional well-being (3 items), social well-being (5 items) and psychological well-being (6 items). Respondents are asked to indicate how often they experienced particular feelings during the past month, on a 6-point Likert scale from 0 (*never*) to 5 (*every day*). Higher scores indicate better well-being (score 0 – 5). Previous research showed good psychometric properties for the MHC-SF (Lamers et al., 2011). In this study, internal consistency was good for both the total scale (α = .91) and the three subscales (α = .87, α = .77 and α = .85 for emotional, social and psychological well-being, respectively).

Stress. Stress was measured with the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). This self-report questionnaire consists of ten items about the experience of stress in daily life. Items are rated on a 5-point Likert scale from 0 (*never*) to 4 (*very often*). Higher scores reflect higher levels of stress (score 0 – 40). Previous research indicates adequate psychometric properties for the PSS scale scores, with coefficient alpha estimates between .78 and .91 (Lee, 2012). The present study indicates good internal consistency for the PSS (α = .83).

Depressive and anxiety symptoms. Depressive and anxiety symptoms were assessed using the 14-item Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). Participants rate the frequency of depressive symptoms (HADS-D, 7 items, score 0 – 21) and anxiety symptoms (HADS-A, 7 items, score 0 – 21) over the past week on a four-point scale

(scores 0 – 3, with varying anchors). The HADS shows good dimensional structure and reliability in both clinical and non-clinical Dutch samples (Spinhoven et al., 1997; Zigmond & Snaith, 1983). Internal consistencies of the HADS-D and HADS-A scale scores in the present study were good ($\alpha = .78$ and $\alpha = .86$, respectively).

Development of the short form

Prior to the development of the FSCRS-SF, missing values analyses were performed.No data was missing for any of the socio-demographic characteristics or for the FSCRS. The proportion of missing values on the SCS-SF, MHC-SF, PSS and HADS items varied between 4.1% and 8.5%. In total, 31 participants had one or more missing values. Missing data were imputed using the expectation-maximization algorithm in SPSS version 23.0.

Testing the psychometric properties of the FSCRS. As a first step in the development of the short form, the psychometric properties of the full FSCRS were tested. Factorial structure, internal consistency, intercorrelations between the subscale scores and convergent validity were assessed using the same procedures and standards as described for the FSCRS-SF below.

Selection of items for the short form. In the next step, we applied multiple criteria for selecting items for the FSCRS-SF in line with Marsh, Ellis, Parada, Richards, and Heubeck (2005). We identified items that (a) best measured the underlying construct, on the basis of standardised factor loadings in the three-factor CFA model, (b) demonstrated minimal cross-loadings as evidenced by the CFA modification indices, and (c) exhibited minimal error correlations with other items. When two items had substantial error correlations, only one item was maintained. Usually, the item with the lowest factor loading was removed.

Testing the psychometric properties of the FSCRS-SF

For confirmatory factor analysis (CFA), we used the robust maximum likelihood estimation method which corrects for non-normally distributed data by using the asymptotic covariance matrix. The variance of the factors was fixed to 1 and each item was restricted to load on only one latent factor. The model's fit was examined using multiple indices, including the Satorra-Bentler (SB) scaled chi-square statistic (χ^2), the non-normed fit index (NNFI), the comparative fit index (CFI), the standardised root mean square residual (SRMR) and the root mean square error of approximation (RMSEA) (Hu & Bentler, 1998). Whilst an acceptable model fit is assumed when NNFI ≥ .90, CFI ≥ .90, SRMR ≤ .10 and RMSEA ≤ .08, a good model fit is obtained when NNFI ≥ .95, CFI ≥ .95, SRMR ≤ .08 and RMSEA ≤ 0.06 (Browne & Cudeck, 1993; Hu & Bentler, 1999).

Internal consistencies of the FSCRS-SF subscale scores were assessed through computing Cronbach's alpha (α) and McDonald's omega (ω) (Dunn, Baguley, & Brunsden, 2014; McDonald, 1999) with 95% bias-corrected and accelerated bootstrap confidence intervals (CIs) based on 1000 bootstrap samples (Kelley & Pornprasertmanit, 2016). Values ≥ 0.70 and ≥ 0.80 reflect acceptable and good internal consistency, respectively (Cicchetti, 1994; Field, 2005).

Since the data were not normally distributed, intercorrelations between the subscale scores were calculated using Spearman's correlation coefficient (one-tailed). Correlations < .10 were considered weak, correlations between 0.10 and 0.30 were considered small, correlations between 0.30 and 0.50 were considered moderate and correlations between 0.50 and 1.00 were considered strong (Cohen, 1988). We used an arbitrary cut-off point of ≤ .70 to reflect related but sufficiently distinct subscales.

Similarly, convergent validity was assessed by computing Spearman correlations (one-tailed) between the FSCRS-SF subscale scores and scores on self-report measures of theoretically related constructs (i.e. SCS-SF, MHC-SF, PSS, HADS-D and HADS-A).

Equivalence of the FSCRS-SF subscale scores was examined through computing Spearman correlations with the FSCRS subscale scores. Since correlations between the long and the short form based on a single administration of the same instrument will be inflated, a correction was applied which adjusts for the shared measurement error between the two versions, using the ω coefficients as the reliability index (Levy, 1967). Both uncorrected (r_s) and corrected correlation coefficients (r_c) are reported. Strong correlations ($r_s \geq .90$, $r_c \geq .80$) indicate substantial overlap between the constructs as measured by the FSCRS and the FSCRS-SF.

Confirmatory factor analyses (CFAs) were performed with LISREL 8.80 (Scientific Software International, Inc.), internal consistency was examined using the MBESS package in R version 3.3.1 (R Foundation for Statistical Computing, Vienna, Austria), and all remaining descriptive and standard psychometric analyses were conducted in SPSS 23.0 (IBM SPSS statistics).

Results

Testing the psychometric properties of the FSCRS

The findings demonstrated good fit of the three-factor model to the data ($SB\chi^2(206) = 350.73$; NNFI =.99; CFI = .99; SRMR = .07; RMSEA = .04, 90% CI [.04, .05]) with factor loadings between .50 and .88, good internal consistency (α and ω values > .80, see Table 2) and adequate convergent validity (see Table 3). A more detailed description of the psychometric properties of the full FSCRS can be found in the supplemental materials.

Selection of items for the FSCRS-SF

Aforementioned considerations for item selection (see Method) resulted in the iterative removal of eight items with high cross-loadings or high error correlations with other items. The content coverage of the remaining items was discussed between the authors to assure sufficient coverage of the concepts measured by the instrument. This resulted in a 14-item short form, with 5 IS items, 4 HS items and 5 RS items (see supplemental material). Normality tests revealed that responses to most FSCRS-SF items were not normally distributed, with skewness values ranging between -.81 and 2.83 and kurtosis values ranging between -.96 and 7.39.

Psychometric properties of the FSCRS-SF

Factor structure of the FSCRS-SF. As with the full FSCRS, all indices demonstrated good fit of the three-factor model to the data: SB$\chi^2(74) = 97.30$; NNFI =.99; CFI = .99; SRMR = .05; RMSEA = .03, 90% CI [.01, .04]. Factor loadings were substantial, ranging from .49 to .92 (Figure 1).

Internal consistency and intercorrelations between FSCRS-SF subscale scores. The alphas, omegas, means, *SD*s and intercorrelations of the FSCRS-SF subscales are shown in Table 2. The removal of items resulted in slightly lower internal consistency for all subscale scores. The internal consistency of each subscale score remained acceptable, however, with α and ω coefficients above .70. As with the original FSCRS, IS and HS scores remained strongly and positively correlated (see Table 2). RS scores were found to be negatively and moderately to strongly correlated with both IS and HS scores. While the latent correlations (see Figure 1) suggest that there is substantial overlap between the IS and HS factors, the

correlations between the sum scores of the subscales (see Table 2) indicate that the FSCRS-SF measures three strongly intercorrelated but sufficiently distinct constructs.

Convergent validity of the FSCRS-SF. Correlations of the FSCRS-SF subscale scores with other theoretically related constructs were similar to those of the full FSCRS scores and most hypotheses were met (Table 3). Whereas IS and RS scores were most strongly associated with self-compassion, HS scores showed the highest correlation with stress. The magnitude of the association between HS scores and self-compassion was also smaller than expected. IS scores demonstrated moderate correlations in the hypothesised direction with all dimensions of well-being. HS scores were moderately associated with emotional and psychological well-being and showed only a weak association with social well-being. Positive associations of at least moderate magnitude were observed between self-criticism scores (both forms) and stress, depressive symptoms and anxiety symptoms. RS scores were strongly rather than moderately associated with well-being and (as predicted) showed the strongest correlation with psychological well-being. In line with our hypotheses, moderate to strong negative correlations were found between RS scores, on the one hand, and stress, depressive symptoms and anxiety symptoms on the other hand.

Correlations between FSCRS and FSCRS-SF subscale scores. The subscale scores of the FSCRS-SF were strongly correlated with the subscale scores of the full FSCRS, with r_s = .94 (p < .001), r_s = .94 (p < .001) and r_s = .95 (p <.001) for IS, HS and RS, respectively. The corrected correlation coefficients were slightly lower than the defined standard (.79, .77 and .78, respectively), but still indicated substantial overlap.

Conclusion

The aim of the first study was to develop and test a short form of the FSCRS in a Dutch community sample. A 14-item FSCRS-SF was proposed. Compared to the original FSCRS, similar findings were achieved for construct validity. CFA showed good fit for a three-factor solution with IS, HS and RS as correlated latent factors. Although slightly lower than in the long form, internal consistency was satisfactory for all three subscale scores. In general, correlations with theoretically related measures were consistent with our predictions, suggesting adequate convergent validity.

STUDY 2

In the second study, the FSCRS-SF was validated using baseline data from all participants in a two-arm RCT on the effectiveness of a guided self-help compassion training in improving well-being (Sommers-Spijkerman, Trompetter, Schreurs, & Bohlmeijer, under review). Regarding factorial structure, internal consistency and convergent validity, the same hypotheses were tested as in Study 1. Additionally, test-retest reliability, known-groups validity and sensitivity to change were examined. Regarding test-retest reliability of the FSCRS-SF subscales within a three-month time interval, we expected relatively strong correlations between the waitlist controls' baseline and post-test scores. For known-groups validity, the cross-validation sample was expected to score lower on self-reassurance and higher on self-criticism (both forms) than the sample in Study 1, since the recruitment of the RCT was specifically targeted at people high in self-criticism. With respect to sensitivity to change, the experimental group was predicted to exhibit significantly greater changes on all FSCRS-SF subscales, compared to the waitlist control group, given that they had followed an intervention which is expected to decrease self-criticism and improve self-reassurance. As CFT is assumed to alleviate psychological distress, such as depressive symptoms, through substituting self-critical with more self-reassuring forms of self-to-self relating, we expected

those who showed improved depressive symptoms to exhibit the greatest (positive) changes on the FSCRS-SF subscales, compared to those who demonstrated unchanged or worsened depressive symptoms.

Method

Participants and procedure

In September 2015, participants were recruited through advertisements in national Dutch newspapers. The advertisements contained a link to the research webpage. On this webpage, the goal of the study was explained in more detail and visitors were able to apply through completing an online screening questionnaire. Participants were included if they: (a) were 18 years or older; (b) had low to moderate levels of well-being, as determined by the MHC-SF (Keyes, 2002; Lamers et al., 2011); (c) had access to a computer or tablet with a good Internet connection, (d) possessed an e-mail address; (e) had sufficient proficiency of the Dutch language (reading and writing); and (f) provided informed consent. Exclusion criteria were: (a) flourishing, as determined by the MHC-SF (Keyes, 2002; Lamers et al., 2011); and (b) moderate to severe depressive and/or anxiety symptoms, as indicated by a score > 11 on the depression or anxiety subscale of the HADS (Zigmond & Snaith, 1983).

A total of 470 participants started the online screening questionnaire, of whom 254 met the eligibility criteria and were invited to complete the baseline assessment. Of the 216 excluded participants, most were excluded due to high anxiety and/or depression scores (n = 134). Other reasons for exclusion were: insufficient Dutch language proficiency (n = 1), too high level of well-being (n = 33) and incomplete data (n = 48). The baseline assessment was completed by 245 participants. Two participants (one in each condition) were excluded due to incorrect completing of questionnaires. Hence, a total of 243 participants were randomly

assigned to the self-help compassion training (n = 121) or the waitlist control condition (n = 122). The majority of the sample was female (74.5%) and highly educated (87.7%). Mean age of the participants was 52.88 years (SD = 9.97, range: 20-78 years). Sample characteristics and mean scores on the FSCRS subscales and other measures are provided in Table 1.

Intervention

Participants in the experimental condition received the self-help book titled 'Compassie als sleutel tot geluk' (Compassion as key to happiness; Hulsbergen & Bohlmeijer, 2015) by mail at their home address. The book consists of seven lessons, each of which draws on CFT (Gilbert, 2009, 2014). Each lesson includes psycho-educational information regarding compassion and a variety of self-reflective and experiential exercises (e.g. soothing breathing exercises, imagining your ideal compassionate self, visualising desired life changes). Participants were instructed to complete one lesson per week and had nine weeks in total to complete the intervention. They received weekly email guidance from a personal counselor. Each participant was randomly assigned to one out of five personal counselors. Two graduated psychologists, two Master students Psychology and the first author provided the counseling. They were trained by two experienced healthcare psychologists (fourth and last author). During their training, the counselors studied the self-help book, performed the exercises and practiced writing e-mails in the roles of both participant and counselor. To warrant intervention integrity, counselors also attended weekly supervision meetings. Participants were requested to send an e-mail about their progress and experiences after completing a lesson. The counselor responded to the participants' e-mails on a fixed day of the week. The aims of the e-mails were: (a) to positively reinforce/encourage the participant, (b) to answer questions about the information or the exercises in the book, (c) to advise

participants on how to deal with particular struggles, and (d) to introduce next weeks' central theme. All communication between counselor and participant took place via e-mail.

Measures

Participants were asked to fill out a questionnaire package at multiple time points: before the intervention (i.e. baseline), after completion of the intervention (i.e. 3 months after baseline) and at three-month follow-up (i.e. 6 months after baseline). Self-report measures were administered online. As in Study 1, the FSCRS, SCS-SF (total scale: $\alpha = .88$; positive subscale: $\alpha = .83$; negative subscale: $\alpha = .86$), MHC-SF (total scale: $\alpha = .84$; emotional well-being subscale: $\alpha = .75$; social well-being subscale: $\alpha = .61$; psychological well-being subscale: $\alpha = .75$), PSS ($\alpha = .79$) and HADS (HADS-D: $\alpha = .72$; HADS-A: $\alpha = .69$) were filled out by the participants. FSCRS-SF subscale scores were obtained from the FSCRS.

Testing the psychometric properties of the FSCRS-SF

Analyses were conducted using the same software as in Study 1. There were no missing data. The statistical procedures used for evaluating the factorial structure, internal consistency, intercorrelations between the FSCRS-SF subscale scores, convergent validity as well as the equivalence of the FSCRS-SF were identical to those in Study 1. In addition, test-retest reliability, known-groups validity and sensitivity to change were examined. Except for test-retest reliability analysis, all analyses were conducted with the data from both trial arms. Since the ultimate goal of the present study was to create a short form of the FSCRS with similar psychometric properties as the original, psychometric properties are reported for both the FSCRS-SF and the full FSCRS and compared with one another.

Test-retest reliability. Test-retest reliability was assessed with the data collected from the waitlist control group ($n = 122$) in two consecutive measurements. Participants in this

condition were expected to yield relatively stable scores given that they did not receive the intervention yet. Spearman's correlation coefficients and intra-class correlation coefficients (ICC) for single measures (two-way mixed effects model, absolute agreement) were used to estimate test-retest reliability of each FSCRS subscale score within a three-month time interval (baseline to post-test). Test-retest reliability coefficients can be interpreted in a similar manner as internal consistency coefficients, with values > .70 and >.80 indicating acceptable and good test-retest reliability, respectively.

Known-groups validity. Since several variables did not show a normal distribution, non-parametric tests were used. Chi-square and Mann-Whitney U tests showed that the cross-validation sample significantly differed from the sample in Study 1 in terms of several socio-demographic and clinical characteristics. The cross-validation sample exhibited significantly higher scores on anxiety and depressive symptoms and stress and significantly lower scores on self-compassion and well-being. Furthermore, the cross-validation sample was significantly older and counted significantly more females, married and high-educated people, and people with paid employment. Mann-Whitney U tests were conducted to evaluate whether mean scores on IS, HS and RS differ between the samples.

Sensitivity to change. Finally, sensitivity to change, i.e. the ability of the FSCRS-SF to accurately detect changes in self-criticism and self-reassurance over time, was evaluated. This was done in two ways, using non-parametric tests. First, we compared the absolute measured changes in IS, HS and RS scores in the experimental and waitlist control group.

For both groups, Wilcoxon signed-rank tests were conducted to assess changes in FSCRS-SF subscale scores at post-test (i.e. 3 months after baseline) compared to baseline. To compare the magnitude of changes in FSCRS-SF scores in the intervention group and the waitlist control group, pre-to-post effect sizes (Cohen's *d*) were calculated per condition, with effect sizes from .00 to .32 reflecting small changes, effect sizes from .33 to .55 reflecting

moderate changes and effect sizes above .55 reflecting large changes (Lipsey & Wilson, 1993). Effect sizes were calculated as $M_1 - M_0 / SD_{pooled}$, where M_1 is the post-test mean, M_0 is the baseline mean and SD_{pooled} is the pooled standard deviation. SD_{pooled} was calculated as $\sqrt{[(SD_1^2 + SD_2^2) / 2]}$.

Second, we examined whether the scores on the FSCRS-SF subscales changed in the theoretically proposed direction, using depressive symptoms as a criterion standard. Previous research has shown a significant positive relationship between depression and self-criticism (e.g. Dunkley, Sanislow, Grilo, & McGlashan, 2009; Ehret et al., 2015; Mongrain & Leather, 2006) and a significant negative relationship between depression and self-compassion (e.g. Barnard & Curry, 2011; Ehret et al., 2015; MacBeth & Gumley, 2012), which was also found in Study 1 discussed in this article. HADS-D scores at baseline and post-test were used to divide the total sample in three subgroups with improved depressive symptoms, unchanged depressive symptoms and worsened depressive symptoms. The mean HADS-D change score was -1.42, with an *SD* of 3.38. Change scores more than 1 *SD* below the mean (< -4.80) were classified as 'improved depressive symptoms', changes scores 1 *SD* or less below or above the mean (-4.80 to -1.96) were classified as 'unchanged depressive symptoms' and change scores more than 1 *SD* above the mean (> 1.96) were classified as 'worsened depressive symptoms'. For each of the three groups, Wilcoxon signed-rank tests were conducted to test for significant changes in FSCRS-SF subscale scores between baseline and post-test. Subsequently, we compared the effect sizes of the IS, HS and RS change scores in those three groups.

Results

Factor structure of the FSCRS-SF

Three out of four indices showed good fit of the three-factor model to the data ($SB\chi^2(74) = 146.94$; $SB\chi^2(74) = 146.94$; NNFI =.96; CFI = .96), whereas the remaining indices suggested acceptable model fit (SRMR = .09; RMSEA = .06, 90% CI [.05, .08]). Factor loadings ranged from .43 to .79 (Figure 2). For the full FSCRS, all indices demonstrated good fit of the three-factor model to the data ($SB\chi^2(206) = 367.96$; NNFI =.97; CFI = .98; SRMR = .08; RMSEA = .06, 90% CI [.05, .07], and factor loadings ranged between .26 and .83.

Internal consistency and intercorrelations between FSCRS-SF subscale scores

Compared to the original FSCRS, internal consistency was substantially lower for IS and HS scores. As shown in Table 4, both reliability estimates indicated weak to moderate internal consistency for both self-criticism subscale scores and adequate internal consistency for RS scores. Similar to the full FSCRS, IS and HS scores showed a strong and positive correlation with one another and a negative moderate to strong correlation with RS scores.

With values ≤ .70, the correlations between the sum scores of the FSCRS-SF subscales indicate related but sufficiently distinct subscales, whereas the latent correlations (see Figure 2) suggest that there is substantial overlap between the IS and HS factors.

Test-retest reliability of the FSCRS-SF

Test-retest reliability was assessed with the data collected from the waitlist control group (n = 122) in two consecutive measurements (see Table 5). For all FSCRS-SF subscales, baseline scores were strongly correlated with the scores three months later. All correlations reached statistical significance ($p < .001$) and were nearly identical to those found for the long form ($r_s = .66$, $r_s = .60$ and $r_s = .74$, respectively). Also substantial ICC values were demonstrated which were again nearly identical to those of the full FSCRS (.69, .65 and .71, respectively). Values for the RS subscale are ≥ 0.7 and < 0.8, hence indicate acceptable

reliability. Taking into account the long period between the two measurements, however, test-retest reliability was also deemed acceptable for the remaining two subscales. Similar findings were observed for both the full FSCRS and the short form.

Convergent validity of the FSCRS-SF

Overall, correlation patterns of the FSCRS-SF subscale scores were nearly identical to those of the FSCRS subscale scores (Table 6). All correlations were in the hypothesised direction, but the magnitude sometimes differed from our predictions. Each FSCRS-SF subscale score demonstrated the strongest association with self-compassion. As predicted, IS and HS scores were found to be significantly strongly and negatively associated with self-compassion. With regard to well-being, a small and negative correlation was found with IS scores. When distinguishing between the different forms of wellbeing, however, only psychological well-being was found to be significantly correlated with IS scores, and not emotional and social well-being. For HS scores, a significant and negative link was found with all dimensions of well-being. The magnitude of the association was small for social well-being, and moderate for emotional and psychological well-being. Stress, depressive symptoms and anxiety symptoms were significantly and positively associated with both IS and HS scores. However, the magnitude of the association between IS scores and depressive symptoms, HS scores and depressive symptoms and IS scores and anxiety symptoms was smaller than expected. In line with our expectations, RS scores were significantly strongly and positively correlated with self-compassion. A moderate and positive correlation was observed between RS scores and overall well-being. The strongest association was found for psychological well-being followed by emotional well-being and then social well-being. RS scores showed a moderate and negative correlation with stress and depressive symptoms, and (contrary to our hypothesis) a weak correlation with anxiety.

Known-groups validity

Comparison of the samples showed that sample 2 scored significantly higher on IS and HS ($p < .001$) and significantly lower on RS ($p < .001$), irrespective of whether the long form or the short form was used. This finding was in line with our predictions.

Correlations between FSCRS and FSCRS-SF subscale scores

In the cross-validation sample, we found almost identical correlations for IS ($r_s = .92$), HS ($r_s = .93$) and RS ($r_s = .95$) scores, which all reached statistical significance at $p < .001$. The corrected correlation coefficient for HS scores was considerably lower than the defined standard ($r_c = .53$). For IS and RS scores, corrected correlation coefficients were also lower than the standard ($r_c = .73$ and $r_c = .76$, respectively), although both forms seem to measure very similar constructs.

Sensitivity to change of the FSCRS-SF

The intervention group showed significant improvements on all FSCRS-SF subscales from baseline to post-test (Table 7). Effect sizes were moderate for HS scores, and large for IS and RS scores. In the waitlist control group, weak and significant improvements were observed for IS and RS scores, but not for HS scores. All effect sizes were substantially larger in the intervention group compared to the waitlist control group, as indicated by Cohen's *d*. Using the HADS-D as a criterion standard, we observed the greatest changes in IS, HS and RS in the improved depressive symptoms group, reflecting large improvements on all FSCRS-SF subscale scores (Table 8). The unchanged depressive symptoms group demonstrated significant but small improvements in HS and RS scores, and significant moderate improvements in IS scores. Changes in IS, HS and RS scores in the worsened

depressive symptoms group were weak and non-significant. These findings provide support for the sensitivity to change of the FSCRS-SF. As can be seen from Tables 7 and 8, the original and shortened version of the FSCRS were nearly equally sensitive to changes.

Conclusion

The second study aimed to cross-validate the FSCRS-SF in another Dutch community sample. Goodness of fit indices demonstrated acceptable to good model fit. Internal consistency was found acceptable for RS scores, but not for the self-criticism subscale scores, especially not for HS. Taking into account the long period between the two consecutive measurements, test-retest reliability of the subscale scores was deemed reasonable. Correlations were in the hypothesised direction, but the magnitude was sometimes smaller than expected. The sample used in Study 1 scored significantly better on IS, HS and RS, suggesting that each subscale was able to discriminate between the two samples. Finally, assessment of sensitivity to change demonstrated that the FSCRS-SF was able to measure changes in self-to-self relating over time. Whereas the short form demonstrated substantially lower internal consistency compared to the long form, findings for test-retest reliability, convergent validity, known-groups validity and sensitivity to change were similar for both forms.

General discussion

The FSCRS has been found to be a valid and reliable measure of self-to-self relating in several previous studies (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004; Kupeli et al., 2013). However since many studies and trials use a battery of outcome measures on multiple occasions, we sought to develop a shorter form of the FSCRS and evaluate its psychometric properties in two independent samples.

In accordance with previous studies with the full FSCRS (Baião et al., 2015; Castilho et al., 2015; Gilbert et al., 2004; Kupeli et al., 2013), both the long form and the short form confirmed the arrangement of the items in the three subscales IS, HS and RS.

In Study 1, convergent validity of the FSCRS-SF was found comparable to the original as evidenced by a similar pattern of correlations of all three subscale scores with the SCS-SF, MHC-SF, PSS and HADS scores. In Study 2, the pattern of correlations with the FSCRS-SF subscale scores was generally in line with our hypotheses, though we recognize that the magnitude of the correlations of IS, HS and RS scores with PSS and HADS scores were considerably smaller than in Study 1. Correlations of IS and RS scores with MHC-SF scores were also substantially smaller. This was also the case for the long form.

In Study 2, test-retest reliability of the FSCRS-SF was found acceptable for RS scores, but not for IS and HS scores, when relying on correlations between the two consecutive measurements. Contradictory to these findings, Castilho et al. (2015) demonstrated satisfactory test-retest reliability for both self-criticism subscales of the full FSCRS, with r = .72 (IS) and r = .78 (HS), and weak test-retest reliability for RS (r = .65) within a four-week period. In the present study, ICC values suggested that none of the FSCRS-SF subscale scores had satisfactory test-retest reliability. Considering the three-month interval, however, variations in state-like constructs such as self-criticism are expected to occur within individuals. Hence, all three FSCRS-SF subscales are deemed reasonably stable. Furthermore, it was found that all subscales are able to measure changes over time. Clearly greater changes were observed in the intervention group as compared to the waitlist control group.

As predicted, the cross-validation sample scored significantly higher on IS and HS and significantly lower on RS, suggesting that all subscales were able to discriminate between the two samples, thereby providing further evidence for construct validity. In addition, the

FSCRS-SF was able to differentiate between people with improved, unchanged and worsened depressive symptoms within the cross-validation sample. In line with our hypothesis, we observed the greatest changes in IS, HS and RS scores in the improved depressive symptoms group. The unchanged depressive symptoms group demonstrated significant changes of small to moderate size, and changes in the worsened depressive symptoms group were non-significant. Similar results were yielded with the full FSCRS. These findings imply high sensitivity to change, suggesting that the FSCRS-SF is an appropriate measure for establishing differences in processes of self-to-self relating at group level.

Despite the overall positive results for the FSCRS-SF, there are several indications that the HS subscale performs less well compared to the other two subscales. Whereas Study 1 shows adequate internal consistency for each subscale score, in Study 2, both reliability estimates suggest that the internal consistency was relatively low for IS scores and especially for HS scores. In the case of HS, it should be noted, however, that the findings obtained with the full FSCRS also indicated weak internal consistency. Albeit very little difference with IS scores, HS scores also showed the lowest test-retest reliability, both in the original and in the shortened version. In this light, researchers and clinicians who are interested in the distinction between the two types of self-criticism (i.e. IS and HS) may wish to use the full FSCRS.

An important finding from Study 2 was that HS and IS responded differently to the compassion intervention. The intervention had a greater influence on self-criticism based on feelings of inadequacy (IS) than on self-criticism based on feelings of self-hatred (HS), hereby providing further support for the multi-dimensional nature of self-criticism. Also when compared to RS, the HS subscale seems less responsive to changes over time. Looking at the means and standard deviations, this finding may be partly accounted for by a ceiling effect, characterized by relatively low baseline scores for HS which leave little room for improvement. This is not very surprising since the sample included here consisted of a non-

clinical population with only mild to moderate depressive and anxiety symptoms. Higher levels of HS may be expected in clinical populations. In support of this notion, a previous study of Baião et al. (2015) found that clinical populations report significantly higher scores on IS and HS and lower scores on RS than non-clinical populations. Nonetheless, the findings of the current study suggest that the FSCRS-SF is still able to measure HS and to distinguish between populations with higher and lower levels of HS.

Although not a specific aim of the present study, we were interested to see if particular patterns could be observed when looking at the correlations of the FSCRS-SF subscale scores with positive versus negative indicators of well-being. As evidenced by multiple studies (Huppert & Whittington, 2003; Keyes, 2005), positive and negative indicators of well-being are related though independent from one another. Considering that the scales measuring positive psychological constructs in this study mainly use positively worded items whereas the scales measuring negative constructs mainly use negatively worded items, we anticipated that scores on the IS and HS subscale, which both contain only negatively worded items, would correlate more strongly with PSS and HADS scores than with SCS-SF and MHC-SF scores, and vice versa for RS scores. This has been raised as a concern with the SCS that mixes positive and negative constructs (López et al., 2015; Muris & Petrocchi, 2016). Hence, it is interesting that our findings did not reveal any substantial differences in correlation patterns with positive and negative constructs for either of the subscale scores. It was striking though that RS scores showed a stronger association with depressive symptoms compared to IS and HS scores. This may suggest, first, that self-reassurance is measuring different constructs to that of kindness, mindfulness and common humanity which are part of the measure of self-compassion as defined by Neff (2003). In other words, self-reassurance may be a different type of self-compassion. Second, helping people suffering from depressive symptoms relate to themselves in a more positive and reassuring manner that tends to focus

on their strengths, such as liking oneself and reminding oneself of one's positive qualities, might be especially important to focus on rather than only addressing their self-critical thoughts. Consistently, an RCT, evaluating the effects of an eight-week compassion-mindfulness therapy program in individuals with recurrent depression and anxiety symptoms, showed significant and large improvements in depressive symptoms compared to a waitlist control condition (Lo, Ng, & Chan, 2015). In addition, several other studies have demonstrated that cultivating compassion leads to a reduction in depressive symptoms in various populations (Braehler et al., 2013; Dodds et al., 2015; Gilbert & Procter, 2006).

Limitations

The present study has several limitations. First, males and lower educated people were underrepresented in both samples, hereby diminishing the generalizability of the findings. Second, the reduced variation of several variables and the lower reliability of the FSCRS-SF, HADS-A and the social well-being subscale of the MHC-SF in the cross-validation sample might have led to somewhat deflated correlation coefficients while checking convergent validity. Third, as the FSCRS has not been independently administered as short form in either of the samples, but only as long form, no strong conclusions can be drawn about the use of the FSCRS-SF as a stand-alone instrument. The similarity between the FSCRS and FSCRS-SF may have been overestimated. To account for this, we used corrected correlation coefficients. The long form and the short form of the FSCRS did overlap considerably more in Study 1 than in Study 2. Fourth, the findings reveal substantial intercorrelations between the subscale scores, which indicates a risk for multicollinearity issues in regression analyses, as already stressed by Kupeli et al. (2013). This should be taken into consideration when studying (changes in) self-to-self relating as predictor or mediator of mental health and well-being outcomes in CFT. Fifth, the FSCRS-SF was not assessed in a clinical sample.

Implications and recommendations for future research

Studies investigating the effectiveness of CFT interventions in different populations are growing rapidly. These as well as many other therapies, including psychodynamic therapy, cognitive therapy and emotion-focused therapy (Kannan & Levitt, 2013), are oriented toward helping people deal with internal processes of self-to-self-relating. Hence, having valid scales to measure these processes is important. The availability of different scales suited to different populations and studies may advance this research area.

As HS showed small means and variances in both community samples, relative to IS and RS, the question arises whether the HS subscale, which measures a rather extreme form of self-criticism, is relevant and meaningful in non-clinical samples. Given that multiple previous studies have shown that the HS subscale had adequate psychometric properties in non-clinical populations, as yet there seems to be insufficient evidence to assume that no meaningful outcomes can be obtained in non-clinical populations with this particular subscale. We recommend further research on its psychometric properties in non-clinical and clinical samples.

Additionally, it may be worthwhile to establish whether the FSCRS-SF subscales are measurement invariant across different samples. Measurement invariance refers to the degree to which scale items function similarly across different groups of people. It would be particularly interesting to see whether the functioning of the FSCRS-SF subscales is equivalent across non-clinical and clinical populations.

Finally, future research may reveal whether the three subscales can be used independently from one another, thereby offering researchers the possibility of leaving out a subscale when using the FSCRS(-SF).

Conclusion

Aside from mixed findings regarding reliability, the proposed 14-item short form of the FSCRS demonstrated good psychometric properties comparable to the results obtained from the full FSCRS, including structural validity, convergent validity, known-groups validity and sensitivity to change. As such, the FSCRS-SF seems a good complimentary version to the original FSCRS for assessing forms of self-to-self-relating in non-clinical samples when shorter scales are required.

Given the fact that the FSCRS is increasingly used as both a process and an outcome measure, further research is required on this short form in non-clinical as well as clinical populations. This is particularly so in the latter where individuals tend to have much higher levels of self-criticism and where the short form HS subscale is likely to be less reliable and sensitive compared to the other subscales. Nonetheless, when working with non-clinical populations, the FSCRS-SF reported here offers a valid measure of negative and positive orientations to the self.

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Table 1

Background characteristics of participants in Study 1 and Study 2

	Study 1 (*N* = 363)	Study 2 (*N* = 243)
Age, years		
M (*SD*)	30.67 (13.38)	52.88 (9.97)
Range	15 – 81	20 – 78
Gender, *n* (%)		
Male	128 (35.3)	62 (25.5)
Female	235 (64.7)	181 (74.5)
Marital status, *n* (%)		
Married/registered partnership	78 (21.5)	131 (53.9)
Divorced	20 (5.5)	49 (20.2)
Widowed	1 (0.3)	7 (2.9)
Never married	264 (72.7)	56 (23.0)
Educational level[a], *n* (%)		
Low (primary school, lower vocational education)	5 (1.4)	1 (0.4)
Intermediate (secondary school, vocational education)	230 (63.4)	29 (11.9)
High (higher vocational education, university)	128 (35.3)	213 (87.7)
Work status, *n* (%)		
Paid employment	147 (40.5)	185 (76.1)
No paid employment	45 (12.4)	53 (21.8)
Student	171 (47.1)	5 (2.1)

Self-criticism and self-reassurance (FSCRS), *M* (*SD*)		
Inadequate self	14.70 (7.16)	18.49 (6.96)
Hated self	2.93 (3.65)	3.70 (2.95)
Reassured self	21.50 (5.43)	16.22 (5.02)
Self-compassion (SCS-SF), *M* (*SD*)	52.61 (12.12)	43.72 (12.07)
Positive facets	26.71 (6.72)	24.53 (6.34)
Negative facets	22.10 (8.34)	28.81 (7.52)
Well-being (MHC-SF), *M* (*SD*)	3.07 (0.89)	2.41 (.65)
Emotional well-being	3.51 (1.01)	2.76 (.79)
Social well-being	2.53 (1.06)	2.13 (.76)
Psychological well-being	3.30 (.95)	2.47 (.76)
Stress (PSS), *M* (*SD*)	16.14 (6.31)	19.47 (5.02)
Depressive symptoms (HADS-D), *M* (*SD*)	4.26 (3.33)	6.37 (3.18)
Anxiety symptoms (HADS-A), *M* (*SD*)	6.51 (4.15)	8.05 (2.95)

Note. FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; HADS-A = Hospital Anxiety and Depression Scale–Anxiety; HADS-D = Hospital Anxiety and Depression Scale–Depression; MHC-SF = Mental Health Continuum–Short Form; PSS = Perceived Stress Scale; SCS-SF = Self-Compassion Scale–Short Form.

[a]Educational level refers to the highest level of education completed.

Table 2

Internal consistency, Means, SDs and Spearman intercorrelations of the FSCRS(-SF) subscales in Study 1 (N = 363)

	N items	Cronbach's α [95% BCa CI]	McDonald's ω [95% BCa CI]	*M* (*SD*)	IS	HS	RS
FSCRS							
IS	9	.86 [.83, .88]	.86 [.83, .88]	14.70 (7.16)	–		
HS	5	.80 [.75, .85]	.80 [.75, .85]	2.93 (3.65)	.59***	–	
RS	8	.82 [.78, .85]	.82 [.79, .85]	21.50 (5.43)	-.54***	-.52***	–
FSCRS-SF							
IS	5	.73 [.69, .78]	.74 [.69, .78]	8.66 (4.13)	–		
HS	4	.78 [.72, .83]	.79 [.74, .84]	2.22 (2.94)	.53***	–	
RS	5	.76 [.71, .80]	.76 [.72, .80]	13.29 (3.78)	-.43***	-.46***	–

Note. BCa CI = bias-corrected and accelerated confidence interval; FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form; HS = hated self; IS = inadequate self; RS = reassured self. ***$p < .001$.

Table 3

Spearman correlations between the FSCRS(-SF) subscales and other psychological constructs in Study 1 (N = 363)

	IS		HS		RS	
	FSCRS	FSCRS-SF	FSCRS	FSCRS-SF	FSCRS	FSCRS-SF
Self-compassion (SCS-SF)	-.66***	-.59***	-.54***	-.48***	.63***	.61***
Positive facets	-.38***	-.35***	-.37***	-.32***	.49***	.46***
Negative facets	.67***	.59***	.48***	.45***	-.56***	-.55***
Well-being (MHC-SF)	-.48***	-.45***	-.36***	-.33***	.54***	.53***
Emotional well-being	-.49***	-.45***	-.40***	-.37***	.52***	.52***
Social well-being	-.33***	-.33***	-.17**	-.16**	.40***	.36***
Psychological well-being	-.47***	-.44***	-.41***	-.36***	.54***	.54***
Stress (PSS)	.60***	.54***	.53***	.50***	-.54***	-.53***
Depressive symptoms (HADS-D)	.42***	.37***	.45***	.43***	-.48***	-.51***
Anxiety symptoms (HADS-A)	.58***	.51***	.49***	.48***	-.46***	-.44***

Note. FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Short Form; HADS-A = Hospital Anxiety and Depression Scale–Anxiety; HADS-D = Hospital Anxiety and Depression Scale–Depression; HS = hated self; IS = inadequate self; MHC-SF = Mental Health Continuum–Short Form; PSS = Perceived Stress Scale; RS = reassured self; SCS-SF = Self-Compassion Scale–Short Form.$^{**}p < .01$. $^{***}p < .001$.

Table 4

Internal consistency, Means, SDs and Spearman intercorrelations of the FSCRS-SF subscales in Study 2 (N = 243)

	N items	Cronbach's α [95% BCa CI]	McDonald's ω [95% BCa CI]	*M* (*SD*)	IS	HS	RS
FSCRS							
IS	9	.83 [.80, .86]	.84 [.80, .87]	18.49 (6.96)	–		
HS	5	.62 [.54, .70]	.62 [.46, .70]	3.70 (2.95)	.61***	–	
RS	8	.79 [.74, .82]	.80 [.76, .84]	16.22 (5.02)	-.55***	-.57***	–
FSCRS-SF							
IS	5	.66 [.58, .73]	.66 [.58, .72]	10.47 (3.83)	–		
HS	4	.52 [.40, .64]	.49 [.35, .62]	2.61 (2.29)	.56***	–	
RS	5	.72 [.65, .77]	.72 [.66, .77]	10.08 (3.45)	-.44***	-.49***	–

Note. BCa CI = bias-corrected and accelerated confidence interval; FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form; HS = hated self; IS = inadequate self; RS = reassured self. ***$p < .001$.

Table 5

Test-retest reliability of the FSCRS(-SF) subscales in Study 2 (n = 122)

	Spearman correlation coefficient (r_s)	ICC [95% CI]
FSCRS		
IS	.66	.69 [.58, .77]
HS	.60	.65 [.53, .74]
RS	.74	.71 [.61, .79]
FSCRS-SF		
IS	.59	.65 [.53, .74]
HS	.58	.64 [.52, .73]
RS	.72	.68 [.57, .77]

Note. All values are statistically significant at $p < .001$. CI = confidence interval; FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form; HS = hated self; ICC = intra-class correlation coefficient; IS = inadequate self; RS = reassured self.

Table 6

Spearman correlations between the FSCRS(-SF) subscales and other psychological constructs in Study 2 (N = 243)

	IS		HS		RS	
	FSCRS	FSCRS-SF	FSCRS	FSCRS-SF	FSCRS	FSCRS-SF
Self-compassion (SCS-SF)	-.69***	-.64***	-.55***	-.53***	.69***	.67***
Positive facets	-.46***	-.43***	-.44***	-.42***	.65***	.64***
Negative facets	.76***	.69***	.53***	.52***	-.54***	-.52***
Well-being (MHC-SF)	-.25***	-.19**	-.36***	-.35***	.40***	.44***
Emotional well-being	-.16**	-.11	-.34***	-.33***	.36***	.36***
Social well-being	-.09	-.09	-.17**	-.18**	.21***	.26***
Psychological well-being	-.33***	-.26***	-.41***	-.38***	.45***	.47***
Stress (PSS)	.35***	.35***	.33***	.31***	-.36***	-.36***
Depression symptoms (HADS-D)	.23***	.19**	.32***	.29***	-.35***	-.34***
Anxiety symptoms (HADS-A)	.33***	.29***	.35***	.34***	-.28***	-.27***

Note. FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Short Form; HADS-A = Hospital Anxiety and Depression Scale–Anxiety; HADS-D = Hospital Anxiety and Depression Scale–Depression; HS = hated self; IS = inadequate self; MHC-SF = Mental Health Continuum–Short Form; PSS = Perceived Stress Scale; RS = reassured self; SCS-SF = Self-Compassion Scale–Short Form. $^{**}p < .01$. $^{***}p < .001$.

Table 7

Sensitivity to change of the FSCRS(-SF) subscales in Study 2 (N = 243)

		Intervention (*N* = 121)			Waitlist (*N* = 122)			
		M (*SD*)	*Z*	*d*	*M* (*SD*)	*Z*	*d*	Δ*d*
FSCRS								
IS	Baseline	18.52 (7.28)			18.46 (6.66)			
	Post	14.58 (6.00)	-5.84***	0.59	17.20 (6.97)	-2.67**	0.18	0.41
HS	Baseline	3.76 (3.13)			3.64 (2.76)			
	Post	2.44 (2.73)	-5.05***	0.45	3.27 (2.90)	-1.78	0.13	0.32
RS	Baseline	16.11 (5.02)			16.34 (5.03)			
	Post	19.46 (4.73)	6.96***	0.69	17.20 (5.25)	2.72**	0.17	0.52
FSCRS-SF								
IS	Baseline	10.48 (3.96)			10.46 (3.71)			
	Post	8.25 (3.25)	-5.92***	0.62	9.74 (3.84)	-2.59*	0.19	0.43
HS	Baseline	2.69 (2.47)			2.52 (2.11)			
	Post	1.65 (2.13)	-5.29***	0.45	2.28 (2.27)	-1.82	0.11	0.34

RS	Baseline	10.07 (3.45)			10.09 (3.48)			
	Post	11.98 (3.00)	6.17***	0.59	10.77 (3.61)	2.81**	0.19	0.40

Note. *Z*-values are reported for Wilcoxon signed-rank tests. FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form; HS = hated self; IS = inadequate self; RS = reassured self. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 8

Sensitivity to change of the FSCRS(-SF) subscales in Study 2, using depression as a criterion standard (N = 243)

		Improved depressive symptoms (*N* = 41)			Unchanged depressive symptoms (*N* = 167)			Worsened depressive symptoms (*N* = 35)		
		M (*SD*)	*Z*	*d*	*M* (*SD*)	*Z*	*d*	*M* (*SD*)	*Z*	*d*
FSCRS										
IS	Baseline	20.61 (6.10)			17.99 (7.10)			18.40 (6.99)		
	Post	15.13 (7.27)	-4.21***	0.82	15.48 (6.43)	-5.35***	0.37	18.74 (6.21)	-.62	0.05
HS	Baseline	4.76 (3.19)			3.46 (2.89)			3.63 (2.72)		
	Post	2.83 (3.27)	-3.76***	0.60	2.65 (2.61)	-4.33***	0.29	3.87 (3.22)	-.63	0.08
RS	Baseline	14.78 (4.29)			16.57 (5.13)			16.26 (5.07)		
	Post	20.19 (4.54)	5.31***	1.22	18.31 (5.13)	5.48***	0.34	16.25 (4.97)	.13	0.00
FSCRS-SF										
IS	Baseline	11.63 (3.55)			10.09 (3.82)			10.91 (3.94)		
	Post	8.39 (4.13)	-4.34***	0.84	8. 81 (3.44)	-4.93***	0.35	10.57 (3.56)	-.46	0.09
HS	Baseline	3.51 (2.64)			2.36 (2.17)			2.71 (2.19)		

	Post	2.02 (2.54)	-3.74***	0.57	1.81 (2.02)	-3.93***	0.26	2.65 (2.65)	-.41	0.02
RS	Baseline	9.00 (3.12)			10.31 (3.51)			10.23 (3.41)		
	Post	12.53 (2.90)	5.17***	1.17	11.40 (3.40)	5.01***	0.31	9.87 (3.21)	.88	0.11

Note. *Z*-values are reported for Wilcoxon signed-rank tests. FSCRS = Forms of Self-Criticising/Attacking and Self-Reassuring Scale; FSCRS-SF = Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form; HS = hated self; IS = inadequate self; RS = reassured self. ***$p < .001$.

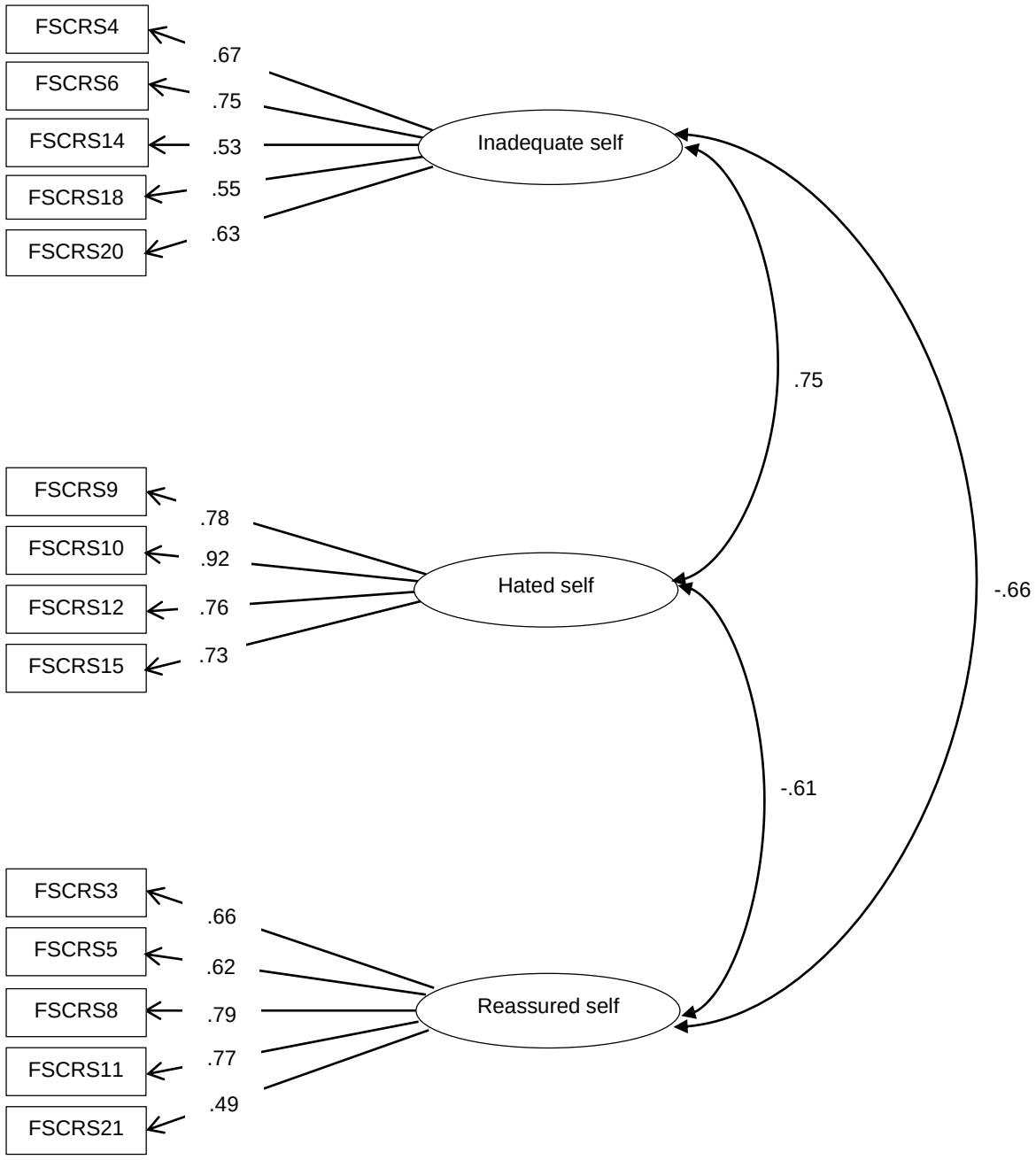

Figure 1. Confirmatory factor analysis of a three-factor solution of the Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form in Study 1.

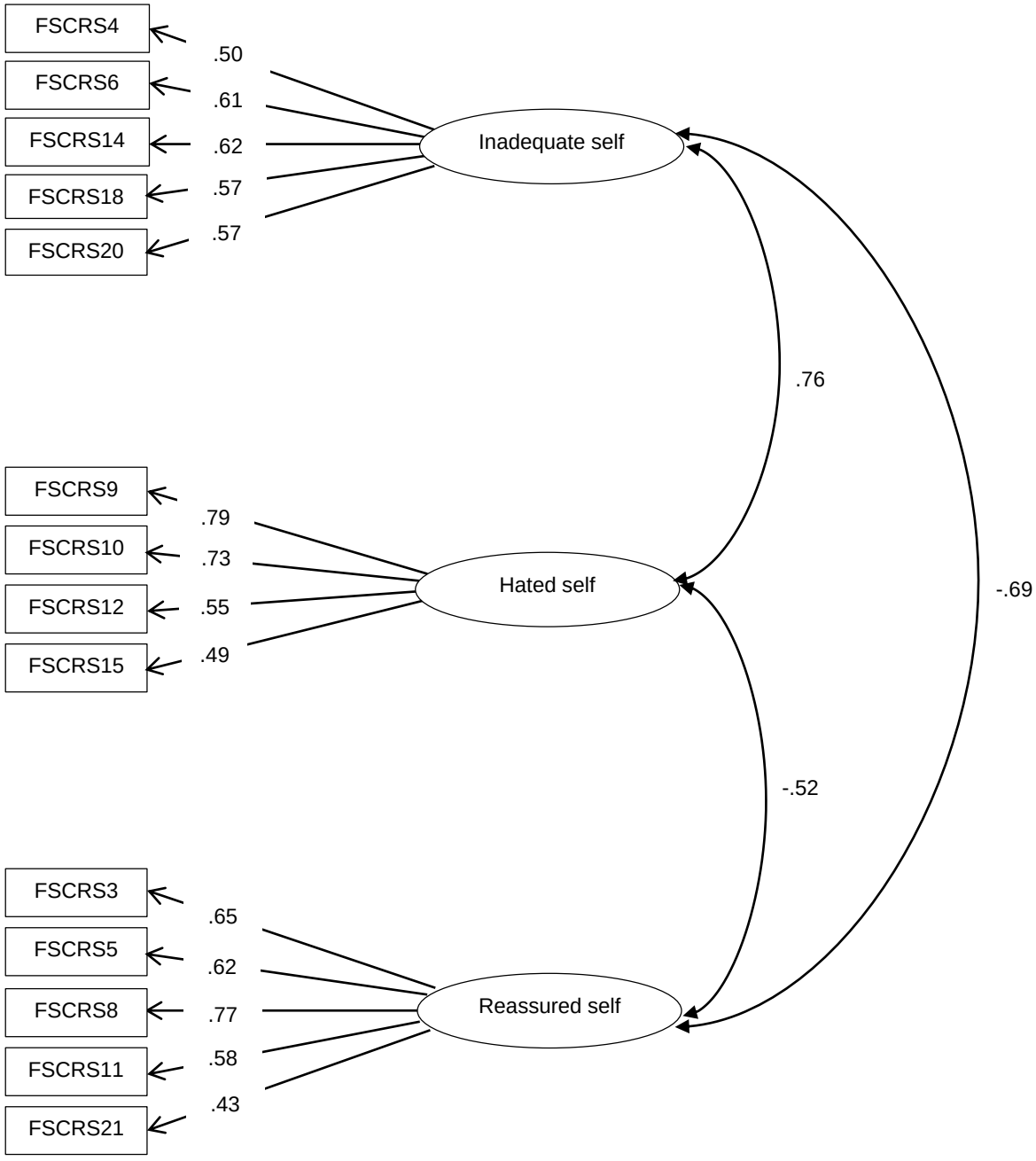

Figure 2. Confirmatory factor analysis of a three-factor solution of the Forms of Self-Criticising/Attacking and Self-Reassuring Scale–Short Form in Study 2.